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ABSTRACT

The influence of the Three Week Residential Seminar in PPB offered by the Civil Service Commission on the job performance, attitudes, and career development of participants who attended the first 15 seminars was studied. The seminar program was developed to retrain experienced analysts (financial, budget, and management) and PPB output user managers for immediate assignment in and near newly created PPBS units. Questionnaires were sent to 653 former participants, representing 90 percent of the 722 individuals who attended the 15 sessions from February 1966 through June 1967; the mean response was 79 percent with a range of 66 to 93 percent. The characteristics of the participants were as follows: average level of education was four and one-half years of college; average grade level was GS-14, with a range from 9 to 18; average age was 44 years with a range of 24 to 67 years; the average years of work experience in the Federal government was 18 and the range was 2 to 40 years; and 25% had attended at least one additional course related to PPBS in the past two years. The results of the study showed that (1) a majority of the participants were directly engaged in some phase of PPB operation, (2) the seminars provided understanding of PPB concepts, (3) the techniques presented in the seminar had been put to use, (4) the seminar had stimulated self-development efforts related to PPB, and (5) 35% were able to describe specific job outputs traceable to seminar teaching. Statistical analysis of the results is presented in tables. Appendixes present the seminar schedule, questionnaire, and guest. (DB)

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A Follow-Up Study of

THE THREE WEEK RESIDENTIAL SEMINAR IN PPBS

BUREAU OF TRAINING
U.S. CIVIL SERVICE COMMISSION
WASHINGTON, D.C.

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A FOLLOW-UP STUDY

OF THE

THREE-WEEK RESIDENTIAL SEMINAR

IN PPBS

Bureau of Training

U. S. Civil Service Commission

1900 E Street, NW.

Washington, D. C. 20415

1968

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PART A

Introduction

Purpose of Study

Synopsis of Results

Characteristics of Participants

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I. INTRODUCTION

Development of the PPBS Seminar

With the Presidential memo to the Cabinet members and Agency heads in August 1965, the Planning, Programming, Budgeting System, which had been adopted in the Department of Defense, became an item of primary concern to the non-military Departments and Agencies in the executive branch. In the memo, two major objectives for PPBS were cited:

(1) To identify national goals with precision. This involved substantially more than the kind of general approach that had been sufficient in the past. The goals of the Federal community would have to be stated in terms against which progress could be measured.

(2) To attain specifically identified national goals at a minimum level of resource expenditure. This was a departure from the familiar approach of taking a given amount of resources and trying to accomplish with these resources as much as possible.

The Presidential memo was followed by Bureau of the Budget Circular 66-3, published in October 1965, directing 22 Departments and Agencies to move ahead immediately and develop a PPB System that would produce program memoranda by May 1, 1966.

In addition, seventeen other Agencies were encouraged to apply PPB principles and procedures for the development and review of programs to the extent practicable.

In the Fall of 1965, no interagency training in PPB existed. The only training in Government had been started at the Naval Postgraduate School, Monterey, California in August 1965. In October 1965, this program was made available to 60 personnel from the non-military organizations mentioned in BOB Bulletin 66-3. One of the participants was Chester Wright, an employee of the Civil Service Commission's Office of Career Development, and the only training specialist in attendance.

In January 1966, William A. Medina, also employed in the Office of Career Development, attended the course, and in February 1966 the Civil Service Commission offered the first non-military interagency Three Week Residential Seminar in PPB. It was held at the University of Maryland, using faculty from the College of Business and Public Administration, in combination with consultants and Government specialists. The Bureau of the Budget provided close guidance throughout the development of the course and key personnel have participated as guest lecturers.

Between February 1966 and May 1968, 1095 persons from 28 Departments and Agencies had attended the course conducted under the direction of the Office of Career Development later known as the Bureau of Training.

This seminar is part of the wider plan for PPBS training, developed by the Commission in cooperation with the Bureau of the Budget, that also includes orientation for Government executives, long-term graduate education for analysts, and short, specialized interagency courses.

Most of the seminars included in this follow-up study were conducted at the University of Maryland, and the University of Virginia. Some were held at Harvard University, and at commercial conference sites in the Washington, D. C. area.

It must be emphasized that the training program that is being evaluated is not static. Many improvements were made as the first 15 seminars were being planned and conducted and this process has continued to the present time. In the field, the first shorter, but parallel, seminar in PPB was conducted by the San Francisco Civil Service Region in early 1968.

Purpose and Objectives of the Seminar

The seminar program was developed to retrain experienced analysts (financial analysts, budget analysts, management analysts) and PPB output user managers for immediate assignment in and near newly created PPBS units.

The objectives of the Planning, Programming, Budgeting Seminar are:

(1) To provide the student with a grasp of the underlying economic base of program budgeting.

(2) To provide a working knowledge of the structure and functioning of the Planning, Programming and Budgeting System as set forth in the Bureau of the Budget Bulletins with particular emphasis on the long-range planning aspects of that System.

(3) To introduce the student to quantitative approaches to management planning and control, and improve his ability to communicate intelligently with quantitative analysts.

The essential distinction of PPBS is that it is truly interdisciplinary. An appreciation of the system by the participants demands that they have an awareness of the disciplines and how they have been synthesized. The component disciplines are presented in the course and their relevance is demonstrated through perceived interrelationships that grow naturally out of the course content and use of case materials.

Summary of Seminar Content

The three segments of the course are arranged with a logical and progressive interrelationship. The first segment provides the student with an understanding of the underlying philosophy of PPBS.

He acquires an understanding of the functioning of the system and is introduced to the fundamental economic concepts involved. He is also introduced to the concept of long-term financial and program planning, to some of the requirements for successful long-range planning, and to some of the benefits of this management process.

The second segment provides the student with a fairly detailed look at some of the more significant concepts of economic analysis, along with an introduction to the computational processes involved in contemporary economic analytical techniques.

The third segment continues the examination of quantitative problem-solving approaches through the primary medium of case studies developed specifically to provide insight into analytic techniques associated with PPBS and with management uses of the products of analysis.

For additional information about course content, see the seminar program in Appendix A.

Development of Instructional Materials for the Seminar

Early in the first year of the course, it was recognized that a comprehensive set of case studies would be necessary to successfully accomplish the program objectives. Consequently, arrangements were made for development of cases by Harvard University. Funds were supplied by the Civil Service Commission and the Bureau of the Budget.

The cases were completed in mid-1966 and have been extensively used in the seminar since then. In addition, the materials have been made available to the public through the Harvard University Case Clearing House. During the past year cases have been purchased by state, local, and foreign governments. Work with some of the cases has also been included in the required curriculum of the Harvard Business School.

The most recent phase in the story of instructional materials is a $25,000 project funded by the Ford Foundation for the development of cases that relate directly to the application of PPB in state and local government.

II. PURPOSE OF STUDY

The purpose of this study is to evaluate the influence of the three week seminar on the job performance, attitudes, and career development of participants who attended the first 15 seminars.

We obtained reactions from employees of many Agencies and Departments who had been out of the course for sufficient time to apply what they may have learned either where PPB had been installed, or where their duties gave opportunity for applying PPB concepts in advance of a total system.

Specifically, we wanted answers to the following questions:

1. Are former participants now working directly in PPB?
2. Has the total course or elements of it been of benefit on the job?
3. Given time for reflection and comparison, do participants think the course gave them an understanding of how various economic, analytic, and administrative concepts are integrated to form the PPB system?

4. Do participants feel that the course was instrumental in changing their way of thinking about government programs, and if so, along what dimensions?
5. Have quantitative and analytic techniques presented in the course been of specific value to participants?
6. Do participants attribute specific job outputs to the training?
7. Have the participants pursued additional study in subjects related to the course, and if so, what subjects?
8. Do participants desire additional follow-on training in PPBS, and if so, what kind?

9. What is the relative influence of age, grade, educational level, length of government experience, program area, and type of work on participants' response to the course?

10. What specific recommendations do the participants have about changes in the training program structure, content, and subject matter emphasis?

Answers to the foregoing questions would be critical for deciding continuance of the course, for improving the structure of the course, and for sharpening the guidance to Agencies selecting participants. The answers would also be vitally important to the development of follow-on training.

III. SYNOPSIS OF RESULTS

A substantial majority of those who attended the Three Week Seminar in PPBS before July 1967 were found to be directly engaged in some phase of the PPB operation in their Agencies.

The seminar generally succeeded in giving the participants an understanding of what theoretical concepts underlie planning-programming-budgeting, and how these concepts have been synthesized to produce a decision-making system.

There has been widespread attitudinal change by the former participants concerning outputs, costs, alternatives, and objectives.

The quantitative and systems analysis techniques presented in the course have been put to use.

There has been progressively greater satisfaction with the balance and emphasis of course content as time passed and the structure was refined.

The seminar has been successful in stimulating self-developmental efforts in areas related to PPB.

A substantial number (35 percent) were able to describe specific job outputs traceable to seminar teaching. About half of the group offered specific suggestions about the kinds of additional training would be useful to them. A large majority of those who have completed the seminar have recommended it to and for their co-workers.

More emphasis on the practical and less on theory was the prevalent voluntary comment.

Information at hand at the start of this study, and data collected through the questionnaire, indicated that there has been a very wide variance in the kinds of people who have attended the PPBS Seminar. Their age, education, and years of experience all encompass nearly every point on the continuum found in the career Federal service. Men who had no college and those with Ph.D's, plus, were classmates. Individuals under 25 years old and some over 65 were trained. Experience ranged from 2 years to 40. There was an equally impressive variety of occupations represented in the fifteen classes under study.

The existence of such wide dispersions presented an opportunity to explore some assumptions about the impact of training on older people vis-a-vis younger; the importance of selecting college educated people for conceptually oriented training; the state of readiness for new ideas of relatively new employees compared with those with considerable experience; and other similar assumptions. The opportunity was exploited by selecting the questionnaires returned by those in the extremes and comparing the replies. Some statistically significant differences were detected, but the number of differences was surprisingly small.

Additional comparisons on the basis of major program area and occupation also produced few distinctions that could be attributed to real difference rather than chance.

IV. CHARACTERISTICS OF THE PARTICIPANTS

Most of those who attended the Seminar were college educated. The average level of education was four and one-half years of college with 37 percent having completed five or more years of college. Nine percent had no college.

The average General Schedule grade was GS-14 and the range was GS-9 to GS-18. Thirty-one percent have been promoted to the next higher grade since completing the Seminar in an average elapsed time of 13 months. This compares favorably with the 13.5 percent promotion rate for the segment of the entire Federal work force in the same grade range during the 12 months of FY 1967.

Forty-four years was the average age of the participants with a range of 24 to 67 years. The median age was 45.5 years and the mode was 46 years. The average participant had 18 years work experience in the Federal Government and the range was 2 to 40 years.

The group has been active in other training as well. Twenty-five percent have attended at least one additional Government-sponsored course related to PPBS within the past two years.

Civil Service Commission courses frequently reported were Mathematics for Managers, Cost/Benefit Workshop, and Executive Orientation in PPBS.

In the following sections, other participant characteristics, such as occupational specialty and kind of academic preparation, will be summarized and analyzed in relation to training results.

V. INTERPRETATION OF RESULTS

This section gives tentative answers to the ten questions posed in the section entitled, "Purpose of Study." These answers are the product of careful analysis of the data contained in Part B, "Presentation of Results and Analysis."

The Present Assignment of Past Participants

Nearly all former participants who returned the questionnaire were engaged in PPB, either directly or indirectly, at the time they responded.* Sixty-two percent reported direct assignment in PPB functions and an additional 37 percent reported indirect involvement. There were few distinctions between the responses of these two groups about the value and utility of the course and those distinctions that did occur involved parts of the course that dealt with specific tasks related to the PPB function.

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*Those who did not respond did not appear to be following different occupational patterns at the time they attended the course than those who did respond.

The General Impact

The evidence indicates that the program has been reasonably successful in achieving its stated objectives. The great majority of former participants reported that they do understand and appreciate the interrelation of the varied concepts, techniques, and skills which form the PPB system. Over half said they left the course with a "good understanding" of this interrelationship, and this response was nearly uniform throughout the subclassifications of respondents.

Seventy-five percent of the former participants who returned questionnaires felt that their way of thinking about Government programs in terms of alternatives had been changed. In addition, between 60 and 65 percent indicated a new perspective concerning the other areas provided for choice: outputs, costs, and objectives.

The proportionate distribution of responses to this question was essentially the same regardless of the criteria* except in the case of those working in International programs where the frequency of responses concerning outputs, costs, and objectives was somewhat lower than from the other program groups.

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* For additional information about the criteria and analytical approach, please see Method of Study in Part B.

Over 50 percent have found the quantitative and systems analysis techniques presented in the course helpful in their work in at least two situations, problem analysis and identifying and considering alternatives.

The course has stimulated the interest of the participants to the extent that 58 percent had continued to study in subjects related to PPB through outside courses, personal readings, etc. Finally, 81 percent of those who attended the course and returned the questionnaire have recommended that others in their Agency take the training.

The Effect of Specific Course Elements

Economic Concepts and Analytic Techniques were the two course elements most frequently cited as being of professional benefit. These elements were chosen by 49 and 50 percent of the respondents respectively. The element chose least frequently (by 22 percent) was Program Memoranda and Program Financial Plan Preparation. The other elements in order of their selection were Program Structuring, Quantitative Techniques, and Information System Concepts. This pattern of response prevailed in most instances when the selections were analyzed by age, grade, occupation, etc.

Those in higher grades (GS-16 and above) tended to favor Economic Concepts slightly more. Over 50 percent of the lower grade group (GS-12 and below) did not cite either. Comparison of responses from those working directly in PPB and those not working directly in PPB indicated that both groups got greatest benefit from Analytic Techniques and Economic Concepts, in that order. Those working directly in PPB, however, selected Economic Concepts to a significantly greater extent than those not in PPB. All of the elements provided for choice were selected more frequently by those working in PPB, except Information System Concepts.

We found exceptions to the order of selection (Analytic Techniques, first; Economic Concepts, second; and Program Memoranda and Program Financial Plan Preparation, last) in the replies when we grouped them by educational background. In this case, everyone but those with no degree thought the Economic Concepts were most beneficial. The Economic Concepts were of significantly greater benefit to those with Scientific and Technical education background than to any other group, except those with Liberal Arts preparation.

Those respondents who attended the first three sessions of the seminar found Economic Concepts to be of greatest professional benefit. But, those who attended the last three sessions rated Analytic Techniques over Economic Concepts.

The latter group also selected Program Structuring over Economic Concepts in spite of the fact that a significantly greater number of them were not working directly in PPB.

Economic Concepts also proved to be of greatest professional benefit to those working in Natural Resources and Scientific and Technical program areas. Those working in International programs, conversely, selected Economic Concepts to a significantly lesser extent. Their second choice after Analytic Techniques was Program Structuring, but not significantly so.

Former participants from Technical occupations rated Economic Concepts as being most beneficial. They also selected Program Memoranda and Program Financial Plan Preparation with a significantly higher frequency than did the other occupation groups.

These observations about the utility of the course content present a curious contradiction to the comment by 24 percent of the respondents who said that theoretical aspects of PPB should be de-emphasized and that the course content should be more specifically oriented to the participating Agencies.

An understanding of PPB depends on an understanding of how contributions from several disciplines have been synthesized to produce a powerful decision making tool. Over one half (51 percent) of the former participants who returned the questionnaire indicated that they left the course with a "good understanding" of the integration of the various concepts. This opinion was given in the light of subsequent observation and comparison.

Our analysis of the responses according to all the criteria produced parallel response patterns. Both the significantly younger and significantly older groups indicated "good understanding" with a frequency higher than the average of all responses. Of the two age groups, the frequency of "good understanding" by those significantly younger was only slightly higher.

Respondents in grades GS-12 and under and GS-16 and above indicated a "good understanding" less frequently than the average, with less than average frequency of responses indicating they "didn't really understand," making "fair understanding" the prevalent choice. Fifty percent of the junior group and 55 percent of the senior group indicated "fair understanding."

In the analysis by education, those with no college degree reported the lowest frequency of "good understanding." The bachelor of science group was also below average. The other education groups reported "good understanding" with a frequency above average. The differences among all education groups were not significant.

The experience factor provided some distinction although it was not significant. While those with five years or less and thirty years or more experienced both expressed "good understanding" with above average frequency, the junior group expressed a noticeably higher frequency of good understanding than did the senior group.

Of those who attended the first three and last three seminars subject to this survey, a higher than average number felt they left the course with a "good understanding." There was only a slight difference between the frequency of responses of these two groups, the latter being higher.

Analysis of responses to this question by occupational grouping also failed to produce a significant distinction. The frequency of the "good understanding" response, however, was noticeably higher from the Financial and Staff Support groups while the frequency of this response from Line Management and Technical occupation was noticeably below average.

The Application of Quantitative and Systems Analysis Techniques

We found situations calling for identification and selection of alternatives to be the most prevalent occasions when the quantitative and systems analysis techniques presented in the course were helpful. Fifty-eight percent made this selection. One-half of the respondents also chose problem analysis. The other choices in the order of their selection were: communicating with others, problem structuring, and problem solving. The frequency was 43 percent down to 28 percent.

The relative distribution of responses among the choices provided was similar under each of the criteria provided for analysis. There were, however, some significant distinctions among the groups under some of the criteria.

Those who attended the last three sessions selected problem structuring with a significantly lower frequency than did those who attended the first three sessions. Those with thirty or more years service selected it significantly less frequently than did those with five years or less service. Those with no college degree and those with a degree in business administration or public administration selected problem structuring with a significantly lower frequency than the other education groups.

Problem solving and identification and selection of alternatives also proved to be distinguishing situations under two criteria, education and occupation. Those with no degree selected problem solving with significantly less frequency than did those with degrees in science or business or public administration. The "no degree" group's selection of identifying and considering alternatives was equally different from that of the business and public administration group. Under occupation, the Financial group was significantly lower in its frequency of selection of problem analysis than the Staff Support group, and significantly lower in selection of identifying and considering alternatives than any of the other groups.

Specific Job Outputs Attributed to the Training

About 35 percent of those who returned the questionnaire felt that there had been at least on instance where there had been tangible results that could be attributed to the training.

The outputs fell within three basic categories: (1) analysis; (2) preparation of plans and memoranda and related documents; and (3) communicating and training. These categories were defined by key words and phrases used by respondents in describing their outputs.

Analysis of the responses by experience, program area, occupation, and the dates of course attendance did not produce any meaningful distinctions. The only significant difference occurred when the answers of those working directly in PPB and those not working directly in PPB were compared. Forty percent of those in PPB cited outputs, whereas 27 percent of those not in PPB felt they had produced something that they could directly relate to the training.

Additional Study that can be Related to the Course

Over one-half (58 percent) of those who responded reported that they had attempted to build upon the knowledge and understanding they had gained from the course through additional study in a formal classroom situation, by following an organized reading plan, or by devoting additional attention to relevant books, periodicals, and journals. The subject matter areas, in the order of frequency of mention, were analytic techniques, PPB as an integrated concept, economics, numerical science, and management and administration.

Analysis of the responses according to the various criteria gave results essentially similar to the overall average of 58 percent seeking additional study.

Exceptions occurred in the case of the significantly younger participants where 70 percent had pursued further study as well as with those having five years or less experience (68 percent).

Within the education criteria those with no college degree and those with degrees in business administration and public administration reported further study significantly less frequently than those with other kinds of education who were above the 58 percent average. Those not working directly in PPB also reported further study to a significantly lesser extent than did their fellow former participants who had been working in PPB. In spite of the difference, those not in PPB reported an impressively high 48 percent rate of participation in additional study which had been stimulated by the course.

The Kinds of Follow-on Training Needed by Former Participants

Among the 51 percent who did request additional training, the most frequently mentioned approach was a shorter program that would include more detailed treatment of certain portions of the curriculum of the three-week seminar. Among the alternatives available within this framework, the most popular was a short course specifically designed to respond to the needs of an Agency or of Agencies all involved in the same program area.

(An experiment with one-week, program oriented seminars during the Spring of 1968 was not successful due to lack of Agency response).

Other subjects for follow-up training included analytic techniques, program memoranda and financial plan preparation, and numerical science.

Open-end Comments About the Three Week PPB Seminar

"No further comment or suggestions" was the most frequent reply (37 percent) to the request for other observations or suggestion regarding the seminar. Specific comments about course content was the next largest category of responses (24 percent) followed by generally complimentary remarks (22 percent) and comments about course administration (11 percent).

The aspect of course content of primary concern was that of theoretical versus practical emphasis, and the consensus was the desirability of more practical and less theoretical. The second most frequent comment about course content called for subject matter treatment more closely oriented to the situations of the participating Agencies.

Time was the most often mentioned feature of the course administration. Opinion was divided, however, on whether more or less time was required.

VI. DECISIONS BASED ON RESULTS

The usual purpose of a detailed examination of past behavior is to improve related behavior in the future. In this instance, the painstaking evaluation of the 3-week PPB seminar produced information which has already influenced management decisions regarding the structure and content of future PPB training. We have made changes in the 3-week seminar, including shortening it to 2 weeks, and we have added certain new technical courses to the PPB curriculum.

Even before collecting and analyzing information through the course evaluation, the training staff had perceived indications of the need for expanded technical training, and adjustment in the length of the 3-week course. The preliminary results of the study contained confirming evidence of these needs, and before the conclusion of the project steps were taken to put some of the more obvious improvements into effect.

First, we had created a cost/benefit workshop, and then a management information technology course. We are now in the process of re-designing the cost/benefit workshop to make it more responsive to past participants' expressed needs and to include some relevant case material.

Analysis of the evaluation results also sharpened the evidence that additional technical training is needed. We have already made or are now planning the following additions to the curriculum:

- Scientific Cost Analysis
- Decision Model Building Workshop
- Work Force Estimating
- Orientation to System Analysis
- Systems Analysis Techniques

Other than the need for additional technical training in fields related to PPB analysis, the study found that many participants felt the course should be less theoretical and more practical. Our decision to shorten the course related to this conclusion. We have carefully reviewed the course to prune out that material which is in fact not particularly useful to Federal managers as represented by our students. For example, the chance that game theory will be actually used as a problem-solving approach by that portion of the Federal population represented in the 3-week course is remote indeed.

Secondly, we have de-emphasized material which while potentially of immediate use could be treated only so superficially in a 3-week format as to make it seem either useless or unsatisfyingly introductory.

Many of the statistical approaches fall in this category. By improving case teaching techniques and culling weak content, we now believe the course can be taught successfully in a 2-week format. We will therefore try it in this form on an experimental basis.

When considering the question of balance between theoretical and practical it should be noted that there is nothing impractical about theory. The purpose of careful observation and consideration of particular events is to permit the formulation of a general theory that adequately explains a class of phenomena.

Thus future events can be predicted, anticipated, and within the limits of our knowledge controlled. Man without theory is a trained beast. Therefore, we cannot in good conscience extract from the PPB course those sections dealing with the theoretical underpinnings of PPB. At the same time we are aware that if the theory is not perceived as practical by the students it will be neither learned nor applied.

We are, in consequence, making every effort to relate the theory directly and immediately to actual government applications. When the course started no case studies illustrating PPB applications were available. The first case material was introduced in the fourth three week course, after development of ten specially prepared teaching cases drawn from actual experience. We now have 32 cases available and are able to select material that will verify the practical nature of the theory.

An early problem with the use of case material was the lack of experienced case instructors. This problem has been largely resolved by two means. First, we have worked carefully with regularly employed academic personnel to enhance their ability to employ the specialized teaching techniques required by the case study method. Second, the center staff have become proficient in teaching a number of the cases and can substantially supplement the less experienced academic staff. In addition to teaching cases, we have secured from BOB, actual program memoranda which are discussed sequentially by those in the Agency who prepared them and those in BOB who reviewed them.

The study produced a large volume of additional information, much of it germane to the complex question of selecting from among Federal employees those who might best be sent to particular training courses. For example, the evidence that age or length of experience, per se, made little difference in reported results of the training shows that in this case these factors would not have been valid predictors, and suggests that we should be cautious about these as criteria when advising Agencies whom to nominate to similar courses.

The hypothesis suggests itself that participant interest and need-to-know, arising from new and difficult assignments, can overwhelm secondary factors such as age and length of service in determining whether employees profit from a relevant learning opportunity.

In all, the study has become extremely helpful in planning curriculum development over approximately a two year period.

P A R T B

Method of Study

Presentation of Results and Analysis

METHOD OF STUDY

A questionnaire (see Appendix B) was used to elicit information about age, occupation and education; to ascertain attitudes toward and applications of course content through limited-response questions; and to gather information about needs for further training and general reactions through open-end questions.

To insure that all who answered the questionnaire had been back on the job long enough to apply any training results before being asked to report its usefulness, only those persons who attended the course prior to July 1, 1967, were contacted. Questionnaires were sent to 653 former participants, representing 90 percent of the 722 individuals who attended the 15 sessions of the course from its inception in February 1966 through June 1967.* The questionnaires were mailed in January 1968; all addresses had been in their Agencies at least 6 months after training.

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* Those not contacted were excluded due to lack of sufficient information to construct a mailing address, or because they were employed by a government organization other than Federal and consequently would be unable to answer many of the questions meaningfully. There were 11 individuals in latter category.

Seventy-eight percent responded. Since the study covers results of sessions given over a 17 month period, attention was given to the frequency of response from those attending each session. The mean response was 79 percent with a range of 66 percent to 93 percent, and responses above the mean from eight classes. Differences in percentage of response seemed to stem from chance factors rather than from class priority or passage of time.

Responses were manually tabulated. In addition to totaling responses to each question, the responses were also classified by the following factors:

Age

General Schedule Grade

Level of Education

Years of Federal Government employment experience

Time of course attendance

Program area

Occupation

Working directly or not working directly in PPB

For comparison, the subdivisions of the classification were drawn in the following manner:

Age:

Significantly younger (below minus one standard deviation from the mean)

Significantly older (above plus one standard deviation from the mean)

General Schedule Grade:

GS-12 and below

GS-16 and above

Level of Education:*

Less than bachelor's degree

Bachelor's degree
1. scientific or technical emphasis
2. business administration or public administration
3. liberal arts (exclusive of above)

Advanced (more than 30 semester hours study beyond a bachelor's degree)

Years of Federal Government experience:

Five years and under

Thirty years and over

Time of course attendance:

First three offerings beginning February 1966

Last three offerings prior to July 1, 1967

Program area (as used by the Bureau of the Budget)

Management

Natural Resources

Human Resources

Science and Technology

Defense

International

*The terms used to describe levels of education and areas of subject matter concentration are particular to this study and do not relate to actual baccalaureate or other degrees.

Former participants working directly in PPB

Former participants not working directly in PPB

Occupation:

Finance (including budgetary functions)

Staff Support (excluding budget and finance)

Line Management

Technical

Responses were tabulated for each subdivision and the results were compared among the subdivisions.

The Chi-square method was used to test the statistical significance of differences found between averaged responses from different groups.

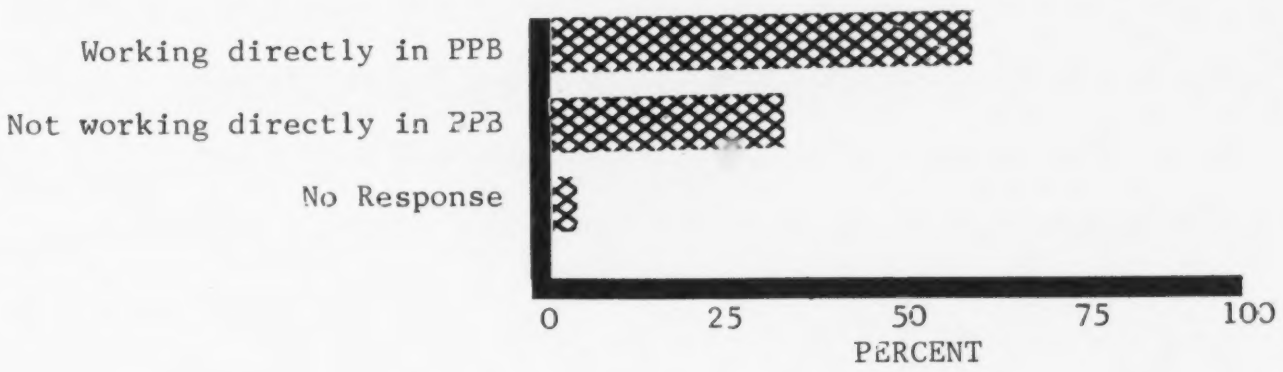
PRESENTATION OF RESULTS AND ANALYSIS

I. TOTAL RESPONSE

#1. ARE YOU CURRENTLY WORKING DIRECTLY IN SOME PHASE OF PPB?

CHART I-1

RESPONSE



Those who indicated they were working in PPB were asked to tell if their work was principally in planning, in programming, or in budgeting, and then to categorize their positions as managerial or analytical. Two developments precluded clear interpretation of the answers to these questions: (1) Since work in planning, programming, and budgeting did not prove to be mutually exclusive activities, the number of responses to this question exceeded the number working in some phase of PPB; (2) the respondents found it difficult to make distinctions between managerial and analytical positions, so compromise answers produced a total in excess of the number of respondents.

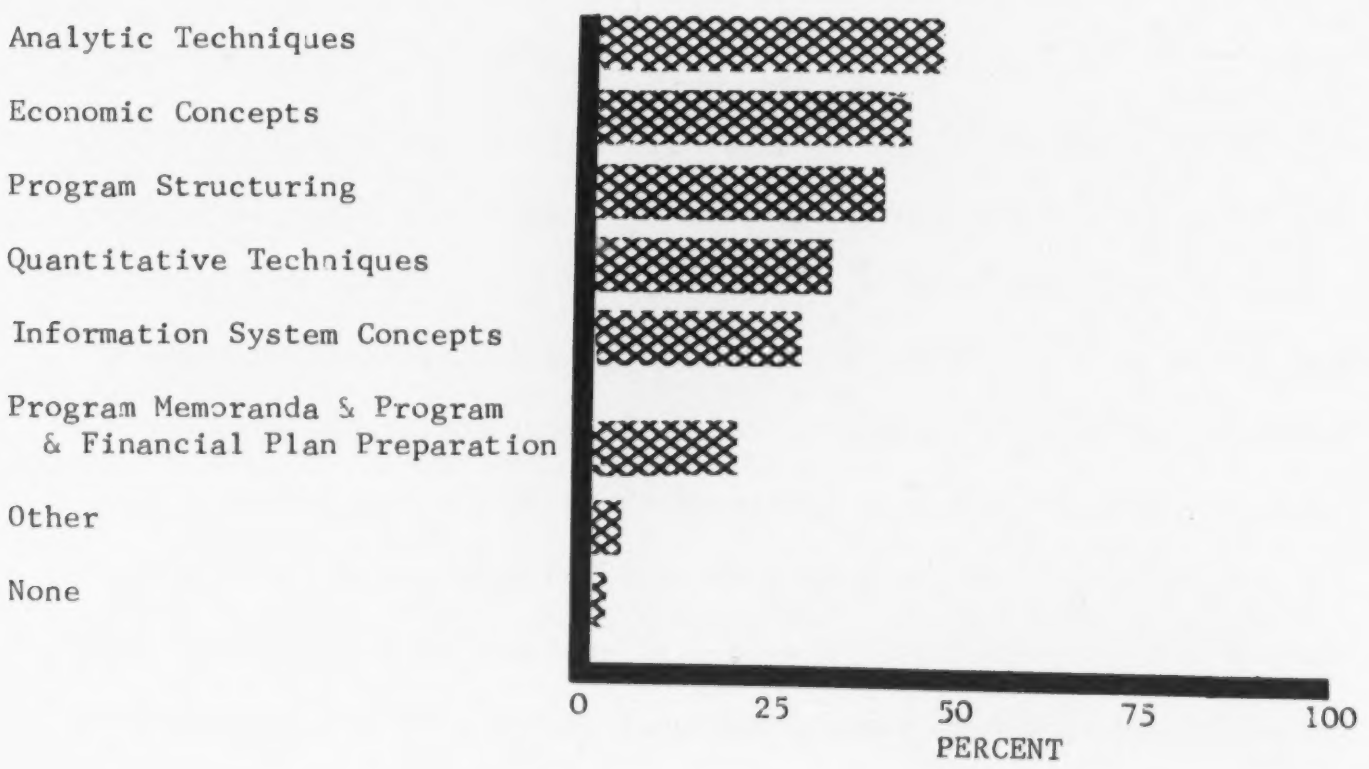
Because some of the questions intended only for the people who were directly involved in PPB were also answered by those not in this group, we had to ignore the occupational distinction and calculate the response distribution using the total number of replies.

The results indicate that 36 percent work in planning; 30 percent in programming; 29 percent in budgeting. Four percent did not respond. To the question, "Is your work generally managerial or analytical?" the response was: managerial, 33 percent; analytical, 38 percent; no response, 29 percent.

Those who were not currently working in some phase of PPB were asked if their work was indirectly supportive of PPB functions. Once again the totals exceeded the number in the "not in PPB" category. The response distribution was: Yes, 37 percent; and No, 15 percent, from all respondents. It can be safely said that about 85 percent were working either directly or indirectly in support of PPB.

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU?

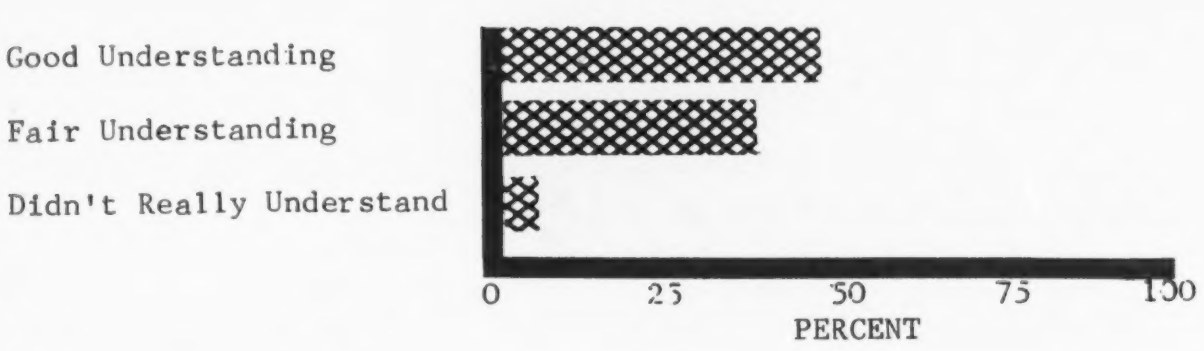
CHART I-2



No rank ordering or maximum number of selections was requested. This question, like all the succeeding ones, did not require the distinction of "in PPB" or "out of PPB," thus the percentage of response values was calculated on the total number of returned questionnaires. Each percentage value should be considered independently on a 100 percent scale. Course elements not listed on the questionnaire and cited as being of professional benefit, included general background information and sources of technical information.

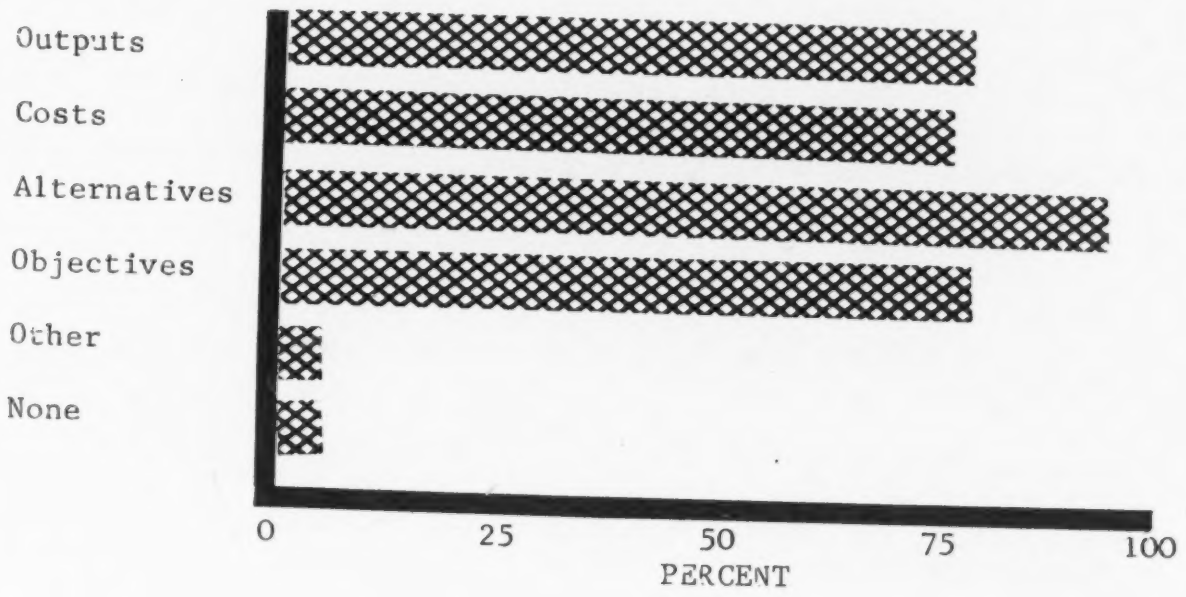
#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

CHART I-3



#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

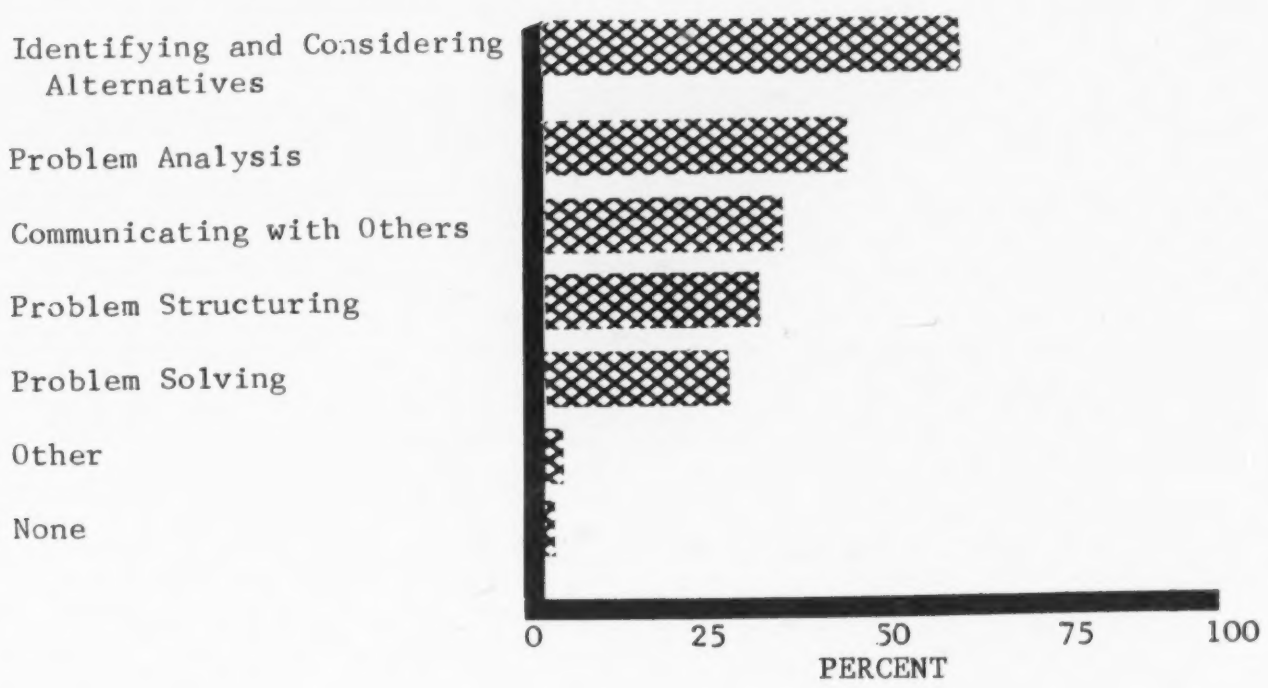
CHART I-4



The response distribution to this question was calculated independently on a 100 percent scale.

#5. PLEASE INDICATE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

CHART I-5



Other applications mentioned included performance evaluation, documentation, and establishing realistic goals.

#6. IF YOU WERE GOING TO ATTEND THE COURSE NOW, IS THERE ANY PORTION WHERE YOU FEEL THE EMPHASIS SHOULD BE CHANGED?

TABLE I-6

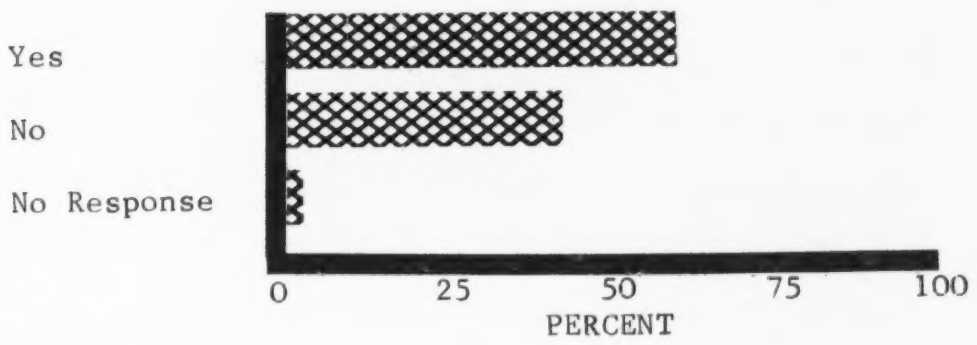
PORTION	INCREASE %	DECREASE %	NO CHANGE %
Preparation of Program Memoranda and Program & Financial Plan	46.5	7.9	29.7
Program Structuring	45.5	11.3	33.9
Systems Analysis	44.4	5.9	28.3
Case Studies	40.4	15.2	32.3
Information Theory	31.1	12.5	38.0
Mathematics/Statistics	19.2	36.6	29.5
Economics	17.6	25.1	42.8
Other (including "practical examples," "Bureau of the Budget use of PM," the budget process," and political implications.")	7.9		

This question was asked on the premise that the most valuable critique of the treatment of subject matter in a training program may be that provided by former participants who have had an opportunity to assess their day-to-day needs and compare these needs with the concepts, skills, and techniques presented through the course.

The response distribution displayed above is ranked according to those portions seen as needing additional emphasis. Totals do not equal 100 percent due to multiple replies and no comment by some respondents on some portions.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

CHART I-7



Those who answered "yes" to this question were asked to list the subjects of their study. The subjects mentioned fell into seven general categories listed here in order of their frequency:

Analytic Techniques

Planning, Programming, and Budgeting as as integrated concept

Economics

Numerical Science

Personal Reading (subject unspecified)

Management and Administration

Other (including no response to question about subject matter)

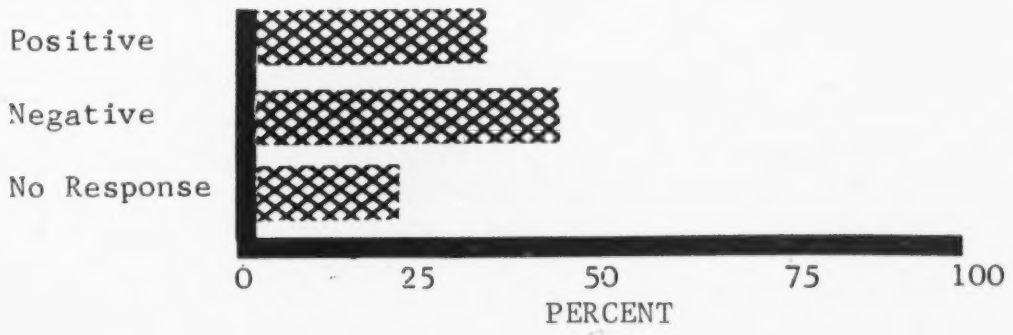
The table below shows the subjects within each category, the number of times each subject was mentioned, and the percentage response distribution for each category:

TABLE 1-7

CATEGORY	SUBJECT	FREQUENCY OF LISTING	PERCENT OF POSITIVE RESPONSES
Analytic Techniques			31.7
	Cost/Benefit Analysis	18	
	Information Systems	21	
	Program Analysis	6	
	Systems Analysis	40	
	Operations Research	8	
Planning, Programming, and Budgeting as an integrated concept			30.7
	PPB (General)	59	
	Budgeting	18	
	Program Structure	7	
	Financial Planning	6	
Economics			28.0
Numerical Science			16.7
	Statistics	30	
	Mathematics	15	
	Linear Programming	2	
	Game Theory	2	
Personal Reading (Subject not specified)			9.2
Management and Administration			8.5
	Management	17	
	Public Administration	8	
Other			7.8

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

CHART I-8



The outputs described fell into three general classes: (1) analysis; (2) preparation of program memoranda and financial plans and related documents; and (3) communication and training.

Examples of analysis include:

> "The seminar . . . was of value not because it was a handbook in how to apply PPB, but because it demonstrated an approach, a way of confronting problems and questions. This was the most valuable contribution the PPB seminar could have made."

> "Output statistics were fairly well established prior to attendance at course. However, thought provoking questions, prompted by such attendance, were raised at PPB review sessions so that suggested additional outputs are being studied for future use."

> "I now have a good background of PPB theories and principles which I almost automatically apply to daily work situations. In fact, my whole pattern of solving problems has been influenced by my experience with PPB."

"Analysis of management costs of R&D operations."

"Use of the knowledge gained in structuring analytical outlines to be completed by agencies in justifying their proposals. Also provides a basis for improved review of such analyses after their submission."

"Have been inspired to improve progressively the techniques employed in quantitative rationale, not only in the total as regards (activity) components, but also in a complicated breakdown or distribution technique including "initiatives," "cost/benefit," "regional," and other distributions. For clarity, quantification and output are synonomous dealing with foreigners trained, oriented, and/or serviced."

Examples of preparation of program memoranda and financial plans

"50-page FDA staff paper on user charges, emphasizing sunk costs vs. marginal costs (a concept I did not understand until I took the course), was well received and instrumental in decision not to implement user charges on certain FDA services."

"Program projections involving population, income, construction of medical facilities, medical schools and graduates into the medical field, manpower, etc."

"PFP for my agency."

"Structuring my division's research program."

"We (the CAB) presented our budget to BOB on a program basis and also to Congress. The budget hearing with the House sub-committee indicated a high degree of satisfaction with the program approach on the budget."

"Wrote program memoranda for the program elements accounting, personnel, management inspection and audit, and administrative service."

"My outputs are primarily budget narratives, explanations and analyses. These have been in budgeting toward relating program needs to program objectives and achievements. The seminar helped by relating the budgetary activity to the longer range planning and programming aspects of PPB."

"Development of interpretive material on agency budget development."

"Report structure of OEO Financial System is now on a PPB basis."

"Preparation and review of Bureau's Program Memoranda."

Some representative outputs in the area of communication and training include:

"I had the opportunity to discuss with field level personnel how they viewed the current workability of the current output measures in the agency in which they work and for which I am responsible in BOB. Action as a direct result of this is still underway."

"Acceptance by NASA General Management of display and review techniques that focus on implications of decisions made NOW as against decisions that do not have to be made until NEXT YEAR or NEXT YEAR plus 1."

"I am suggesting and obtaining greater participation of line supervision in the preparation of financial plans. We are much more conscious of the cost/benefit factor."

"Provided specialized staff service in conduct of PPBS Seminar for Metropolitan Kansas City sponsored by local F.E.B. Chapter on January 8, 1968."

"I am currently attempting to develop a presentation to top management as to what they need to know to make decisions - primarily how to establish priorities for funding, cost/benefit ratios, incremental costs, etc."

"I have since given several lectures to various interested groups in my former organization."

"I was asked to give a talk which explained the seminar, defined terms, and gave examples of use of PPB."

"Based on the course, I had my attitudes on the importance of objectives substantiated. With this buttress to my confidence, I was able to convince our program oriented planning staff that they should concentrate on objectives and on alternatives that should be considered in achieving these objectives."

II. AGE

Although the total response to the questionnaire was favorable and generally in line with the expectations of Bureau of Training personnel involved in the PPBS Seminar, it appeared relevant to investigate the impact of distinctive characteristics of the former participants on the value of the course to any given individual. The question of age and response to the course was approached by separating from the group the response of those who are significantly younger (35 years of age and under) and those significantly older (54 years of age and older).*

Three questions were selected as being most susceptible to influence by the age of the respondent. The questions selected for this analysis and the responses are shown in the tables below:

#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

TABLE II-1

RESPONSE	YOUNGER (n=93) %	OLDER (n=74) %
Good Understanding	58.1	52.7
Fair Understanding	38.7	43.2
Didn't Really Understand	3.2	4.1

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*The standard deviation in the age distribution of all those returning the questionnaire was 8.7 years with the mean age 44.7 years. For purposes of this study, significantly younger and significantly older are those ages in the distribution that fall beyond plus one and minus one standard deviation.

While there appears to be an edge of difference between these two groups in favor of the younger in their comprehension and appreciation of the conceptual scheme of PPB, actually the difference was shown by statistical test not to be significant, or reliable for predictive purposes.

#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

TABLE II-2

RESPONSE	YOUNGER (n=93) %	OLDER (n=74) %
Yes - Outputs	79.7	56.8
Yes - Costs	59.1	59.5
Yes - Alternatives	78.5	81.1
Yes - Objectives	68.7	69.8
Yes - Other	5.4	6.8
No Yeses	7.5	10.8

(The columns do not equal 100 due to multiple replies.)

This analysis does not produce any information that can lead to a conclusion that age is a determining factor in the receptivity of participants to accept new approaches to familiar challenges. Additional tests of significance did not produce measurable differences.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE II-3

RESPONSE	YOUNGER (n=93) %	OLDER (n=74) %
Yes	69.9	63.5
No	29.0	36.5
No Response	1.1	-

No significant difference.

III. GENERAL SCHEDULE GRADE

Since 467 of the 508 respondents were in positions under the General Schedule, no attempt was made to equate grade classifications under other systems to GS grades. Of those under the General Schedule, 82 percent were in grades 13, 14, and 15 at the time they completed the questionnaire. Recognizing that the responses of this group would have appreciable effect on the overall result, the question "Is there any significant difference in the responses of those in grades above and below this interval?" was raised. Five questions that might be affected by grade were selected for analysis. These questions and the responses are shown in the tables below:

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST BENEFIT TO YOU?

TABLE III-1

RESPONSE	GRADES 12 AND UNDER (n=54) %	GRADES 16 AND OVER (n=28) %
Economic Concepts	51.9	63.0
Quantitative Techniques	24.1	33.3
Analytic Techniques	48.1	37.0
Information System Concepts	31.5	37.0
Program Structuring	48.1	40.7
PM and PFP Preparation	24.1	25.0

(Columns do not equal 100 due to multiple replies.)

Although the differences in the responses between the groups are not statistically significant,* they give some thin support to the premise that training in conceptual areas is more valuable to higher level employees while instruction in skills and techniques has greater utility for those in lower grades.

#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

TABLE III-2

RESPONSES	GRADES 12 AND UNDER (n=54) %	GRADES 16 AND OVER (n=28) %
Good Understanding	46.3	40.7
Fair Understanding	50.0	55.6
Didn't Really Understand	3.7	3.7

The slightly higher degree of understanding reported by those in lower grades is not significantly different from those in higher grades or from the response of the total group.

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*Chi-square tests indicated a high probability that these two groups are from the same population in terms of this question.

#5. PLEASE INDICATE THE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE III-3

RESPONSE	GRADES 12 AND UNDER (n=54) %	GRADES 16 AND OVER (n=28) %
Problem Structuring	22.2	33.3
Problem Analysis	48.1	40.7
Problem Solving	20.4	18.5
Communicating with Others	46.6	48.1
Identifying and Considering Alternatives	59.3	63.0

(Columns do not total 100 due to multiple replies.)

Here again, the marginal differences between groups are not significant. Both response patterns are also parallel with the answers from all the respondents.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE III-4

RESPONSE	GRADES 12 AND UNDER (n=54) %	GRADES 16 AND OVER (n=28) %
Yes	57.4	63.0
No	37.0	37.0
No Response	5.6	-

No significant difference.

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

TABLE III-5

RESPONSE	GRADES 12 AND UNDER (n=54) %	GRADES 16 AND OVER (n=28) %
Yes	24.1	37.0
No	70.4	63.0
No Response	5.5	-

While those in higher grades more frequently cited outputs, the differences did not meet the statistical test of significance.

IV. EDUCATION

The responses were divided into the five education categories described in "Method of Study": less than bachelor's; bachelor's degree in science or technology; bachelor's degree in business administration or public administration; bachelor's degree in liberal arts, excluding the forementioned; and advanced, including more than 30 hours study beyond a bachelor's degree. The responses were analyzed separately on the assumption that a participant's level of education as well as his concentration of courses may have significant influence on his ability to assimilate the training and to apply it to his duties.

Eighty percent of the respondents hold bachelor's degrees or more. Bachelor's degree holders who have not earned a master's degree or its equivalent comprised the largest segment of the total group answering the questionnaire (48.5 percent). Those with advanced education were next (31 percent). The frequency of types of education reported by those at the bachelor's level was bachelor's degree in business or public administration (19.1 percent), bachelor's degree in a scientific or technical area and bachelor's degree in liberal arts other than business or public administration, occurring with equal frequency (14.7 percent) each. Those with less than a bachelor's degree included 15.1 percent of all respondents. Five questions were selected for analysis.

Five questions were selected as being relevant to educational level. These questions and the responses are shown in the following tables:

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU?

TABLE IV-1

RESPONSE	NO DEGREE (n=77) %	BACHELOR OF SCIENCE (n=75) %	BACHELOR OF BA OR PA (n=97) %	BACHELOR OF ARTS (n=75) %	ADVANCED EQUIV. (n=158) %	TOTAL* (ALL) (n=508) %
Economic Concepts	44.2	66.6	43.3	52.0	45.6	48.7
Quantitative Techniques	23.4	34.7	30.9	26.7	29.1	31.3
Analytic Techniques	57.1	56.0	48.5	64.0	51.3	50.3
Information System Concepts	27.3	21.3	34.0	32.0	32.3	29.3
Program Structuring	45.5	37.3	41.2	36.0	42.4	42.8
PM, PFP Preparation	23.4	17.3	25.8	24.0	20.3	22.0
Other	5.2	8.0	10.3	6.7	12.0	8.3

(The total responses are repeated for comparison.)

The responses were not significantly different except in the professional benefit of economic concepts. Here the respondents with a bachelor of science degree proved to be significantly different from all the other groups except those having a bachelor's degree in liberal arts. The difference was present to the extent of less than one percent probability of similarity.

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*Percentages under "All" do not equal an average for the other categories because we could not determine education classification for some questionnaires.

#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

TABLE IV-2

RESPONSE	NO DEGREE (n=77) %	BACHELOR OF SCIENCE (n=75) %	BACHELOR OF BA OR PA (n=97) %	BACHELOR OF ARTS (n=75) %	ADVANCED EQUIV. (n=158) %	TOTAL (ALL) (n=508) %
Good Understanding	41.6	44.0	59.8	56.0	58.9	50.9
Fair Understanding	53.2	52.0	38.1	41.3	37.3	43.0
Didn't Really Understand	2.6	4.0	2.1	2.7	3.8	2.4
No Response	2.6	-	-	-	-	3.7

The frequency of optimum response correlates positively with academic backgrounds that are more likely to have included PPB related subject matter and with the number of years of education. A statistically significant difference at the 95 percent confidence interval occurred between the response of those with no degree and those with a bachelor of business administration or public administration, or a bachelor of arts, or a master's degree. A significantly smaller percentage of the bachelor of science group indicated a good understanding than of the bachelor of business or public administration and the master's degree groups.

#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

TABLE IV-3

YES RESPONSE	NO DEGREE (n=77) %	BACHELOR OF SCIENCE (n=75) %	BACHELOR OF BA OR PA (n=97) %	BACHELOR OF ARTS (n=75) %	ADVANCED (n=158) %	TOTAL (ALL) (n=508) %
Outputs	62.3	68.0	62.0	66.6	64.6	64.7
Costs	68.8	66.7	61.9	62.7	60.1	62.8
Alternatives	83.1	82.7	74.2	74.7	74.7	76.4
Objectives	67.5	73.3	64.9	69.3	60.1	64.5
Other	2.6	10.7	5.2	7.8	5.0	5.7
No Yeses	3.9	3.4	6.2	9.3	10.1	5.3
No Response	1.3		2.1			

No significant difference. Marginally greater responses may be due to the lack of PPB related subjects in certain academic programs. For instance, the relatively higher influence of economic concepts on the thinking of "no degree" and bachelor of science respondents about alternatives might be explained by less previous formal instruction in economics.

#5 PLEASE INDICATE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE IV-4

RESPONSE	NO DEGREE (n=77) %	BACHELOR OF SCIENCE (n=75) %	BACHELOR OF BA OR PA (n=97) %	BACHELOR OF ARTS (n=75) %	ADVANCED (n=158) %	TOTAL (ALL) (n=503) %
Problem Structuring	15.6	29.3	21.6	38.7	34.8	29.1
Problem Analysis	53.2	52.0	44.3	52.0	53.2	49.7
Problem Solving	35.1	21.3	22.7	30.7	34.8	28.3
Communicating with Others	45.5	49.3	46.4	48.0	43.0	43.2
Identifying and Considering Alternatives	67.5	61.3	51.5	58.7	58.2	58.0
Other	2.6	5.3	5.2	5.3	4.4	4.6
No Response	7.8	5.3	4.1	4.0	7.6	5.8

This table reveals interesting distinctions among the education groups. There is a significantly lower percentage of positive responses about problem structuring by the no degree group when compared with all the other groups except bachelor of business or public administration. The no degree group was also significantly lower than bachelor of science group and the bachelor of public administration group in the application of quantitative and systems analysis techniques to problem solving. Identifying and considering alternatives provided another significant distinction between the no degree group and the bachelor of public administration group, the no degree group being the lower. All the distinctions were made using a 95 percent confidence interval.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE IV-5

RESPONSE	NO DEGREE (n=77) %	BACHELOR OF SCIENCE (n=75) %	BACHELOR BA OR PA (n=97) %	BACHELOR OF ARTS (n=75) %	ADVANCED (n=158) %	TOTAL (ALL) (n=508) %
Yes	48.2	68.0	49.5	65.3	66.5	58.0
No	49.2	29.3	49.5	30.7	33.5	35.8
No Response	2.6	2.6	1.0	4.0	-	6.2

The percentage of positive responses of those with no degree and those with a bachelor of business or public administration degree are significantly lower than the other groups and than the total response.

V. YEARS OF GOVERNMENT EXPERIENCE

To assess the influence that length of service and cumulative experience might have on the reactions of participants, the answers from those with 5 years or less experience, and from those with 30 or more years were compared. The mean of the experience distribution is 18.10 years, the median 19 years.

The questions selected for comparison and the responses are shown in the following tables:

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU?

TABLE V-1

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Economic Concepts	37.5	64.1	48.7
Quantitative Techniques	15.0	28.2	31.3
Analytic Techniques	42.5	71.8	50.3
Information System Concepts	35.0	25.6	29.3
Program Structuring	42.5	41.0	42.8
PM, PFP Preparation	12.5	10.3	22.0
Other	17.5	2.6	8.3
No Response	-	2.6	-

(The total responses are repeated for comparison.)

The significant differences that occurred pertain to activities that are primarily conceptual in nature and favored the group with more experience. The frequency of selection of Economic Concepts as a course element that had been of professional benefit by the junior group was significantly less than this selection by the senior group. The same is true about the selection of analytic techniques, and in both cases the senior group was significantly greater than total. There was also a significant difference in the frequency of "other" elements between the junior and senior groups.

Some of "other" elements mentioned by the junior group included "placing PPB in context," "prestige value of the course," "organizational problems," and "reading material."

#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

TABLE V-2

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Good Understanding	67.5	53.8	50.9
Fair Understanding	30.0	43.6	43.0
Didn't Really Understand	2.5	-	2.4
No Response	-	2.6	3.7

While marginal differences favored the group with 5 years experience and under, there is no statistically significant difference in the responses.

#5. PLEASE INDICATE THE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEM ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE V-3

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Problem Structuring	37.5	17.9	29.1
Problem Analysis	55.0	46.2	49.7
Problem Solving	22.5	30.8	28.3
Communicating with Others	30.0	38.5	43.2
Identifying and Considering Alternatives	64.0	56.4	58.0
Other	2.5	2.6	2.5
No Response	5.0	7.7	2.0

There is a significant difference between responses of the junior and senior groups about the application of quantitative and systems analysis techniques to problem structuring. The junior group was higher. No other significant differences were detected.

#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

TABLE V-4

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Outputs	62.5	56.4	64.7
Costs	60.0	51.3	62.8
Alternatives	80.0	79.5	76.4
Objectives	70.0	69.2	64.5
Other	2.5	5.1	5.7
No Yeses	12.5	5.1	5.3

The patterns of responses by both groups were essentially parallel.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE V-5

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Yes	67.5	59.0	58.0
No	32.5	41.0	35.8
No Response	-	-	6.2

While there is a higher frequency of further study by the junior group, the difference is not significant. It is perhaps noteworthy that over half of the senior experience group as well as the older age group individually sought additional information.

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

TABLE V-6

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Yes	30.0	35.9	31.9
No	70.0	64.1	62.0
No Response	-	-	6.1

The factor of experience had no apparent influence on answers to this question.

#10. FOLLOWING YOUR EXPERIENCE WITH THE COURSE, HAVE YOU RECOMMENDED IT FOR OTHER IN YOUR AGENCY?

TABLE V-7

RESPONSE	5 YEARS AND UNDER (n=40) %	30 YEARS AND OVER (n=39) %	TOTAL (n=508) %
Yes	87.5	74.4	80.6
No	12.5	23.0	15.0
No Response	-	2.6	4.4

No significant difference.

VI. COMPARISON OF RESPONSES OF THOSE ATTENDING THE FIRST THREE SESSIONS OF THE PROGRAM WITH THE RESPONSES OF THOSE ATTENDING THE LAST THREE SESSIONS COVERED BY THE SURVEY.

In the seventeen months between February 1966 and July 1967 when the fifteen seminars considered by this survey were conducted, much growth took place in the knowledge about the application of PPB to civilian agencies of the Federal Government. A continuing effort has been made to incorporate new refinements and perceptions into the seminars to make them more relevant to the needs of the participants and their employing Agencies. To evaluate the success of changes in seminar design and content in meeting the needs of the participants, we compared responses of those attending the initial three seminars from February through August 1966 and those attending the latter segment of the FY 1966-67 series, April through June 1967. The relevant questions and the responses are shown in the following tables.*

#1. ARE YOU CURRENTLY WORKING DIRECTLY IN SOME PHASE OF PPB?

TABLE VI-1

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Yes	71.6	59.1	-12.6
No	25.9	40.9	+15.0
No Response	2.4	-	-

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*A statistically significant difference in the response is present when the percentage point change is 14 or greater.

By this criterion the class population in the latter sessions was significantly different. Most participants in the early sessions were selected because they were to be directly involved in the operation of the PPB system. Later groups included more line managers and staff personnel with specialities other than PPB.

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU.

TABLE VI-2

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Economic Concepts	54.1	49.5	- 4.6
Quantitative Techniques	24.7	35.5	+10.8
Analytic Techniques	43.5	53.8	+10.2
Information System Concepts	27.1	34.4	+ 7.3
Program Structuring	35.3	51.6	+16.3
PM, PFP Preparation	16.5	24.7	+ 8.2

The apparent contradiction posed by significantly higher benefit from Program Structuring (a PPB oriented concept) by those attending the latter session (which included significantly more people not in PPB) may be explained by the refinement of the concept that took place over the 15 months span.

#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

TABLE VI-3

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Good Understanding	54.1	55.9	+1.8
Fair Understanding	42.4	40.9	-1.5
Didn't Really Understand	3.5	1.0	-2.5

No significant difference.

#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

TABLE VI-4

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Outputs	70.6	69.9	- .7
Costs	60.0	62.4	+2.4
Alternatives	78.8	74.2	-4.6
Objectives	68.2	64.5	-3.7
Other	8.2	4.3	-3.9

No significant difference.

#5. PLEASE INDICATE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE VI-5

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Problem Structuring	34.1	19.4	-14.7
Problem Analysis	44.7	49.5	+ 4.8
Problem Solving	28.2	23.7	+ 4.5
Communicating with Others	50.6	46.2	- 4.4
Identifying and Considering Alternatives	55.3	57.0	+ 1.7

This indicates that the techniques have been significantly less helpful in problem structuring to those who attended later, but there has also been a marginal shift to emphasis toward analysis and selection of alternatives as time passed.

#6. IF YOU WERE GOING TO ATTEND THE COURSE NOW, IS THERE ANY PORTION WHERE YOU FEEL THE EMPHASIS SHOULD BE CHANGED?

TABLE VI-6

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13, 14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
ECONOMICS			
Increased	20.0	19.4	- .6
Decreased	23.5	32.3	+8.8
No Change	42.4	47.3	+4.9
MATHEMATICS/STATISTICS			
Increased	21.2	14.0	-7.2
Decreased	42.4	45.2	+2.8
No Change	22.4	30.1	+7.8
CASE STUDIES			
Increased	60.0	40.9	-19.1
Decreased	7.1	16.1	+ 9.0
No Change	22.4	35.6	+14.2
SYSTEMS ANALYSIS			
Increased	49.4	43.0	- 6.4
Decreased	10.6	3.2	- 7.4
No Change	30.6	45.2	+14.6
INFORMATION THEORY			
Increased	27.1	32.3	+ 5.2
Decreased	20.0	11.8	- 8.2
No Change	34.1	37.6	+ 3.5

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
PROGRAM STRUCTURING			
Increased	38.8	46.2	+7.4
Decreased	11.8	12.9	+1.1
No Change	34.1	40.9	+6.8
PREPARATION OF PM, PFP			
Increased	50.6	51.6	+1.0
Decreased	10.6	7.5	-3.1
No Change	25.9	33.3	+7.4

Those who attended last expressed a significantly greater degree of satisfaction with case studies and the portion dealing with systems analysis. Deficiencies in those areas were recognized by the Commission when the series started, and effort was made to strengthen these portions.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE VI-7

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Yes	64.7	58.0	-6.7
No	35.3	40.9	+5.6

No significant difference.

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

TABLE VI-8

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Yes	30.6	30.1	- .5
No	67.1	68.8	+1.7

No significant difference.

#10. FOLLOWING YOUR EXPERIENCE WITH THE COURSE, HAVE YOU RECOMMENDED IT FOR OTHERS IN YOUR AGENCY?

TABLE VI-9

RESPONSE	SESSIONS 1,2, & 3 (n=85) %	SESSIONS 13,14, & 15 (n=93) %	CHANGE IN PERCENTAGE POINTS %
Yes	84.7	78.5	-6.2
No	14.1	18.3	+4.2

No significant difference.

VII. PROGRAM AREAS

To assess the reactions of former participants who are working in different types of programs, the questionnaires were divided into six groups according to the program area of the respondent's employing agency. The programs are Defense, Human Resources, International, Management, Natural Resources, and Science and Technology. Typical organizations in each category, as listed, are Department of the Army, Office of Economic Opportunity, Agency for International Development, Civil Service Commission, Department of Interior, and Agricultural Research Service.

The questions selected as being relevant to this analysis and the responses are shown in the tables below.*

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU?

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*The sum does not equal 508 since former participants are presently in long term education programs or other assignments not directly related to the program area of their employing organization.

TABLE VII-1

RESPONSE	DEFENSE (n=15) %	HUMAN RESOURCES (n=112) %	INTERNATIONAL (n=34) %	MANAGEMENT (n=166) %	NATURAL RESOURCES (n=128) %	SCIENCE & TECHNOLOGY (n=50) %
Economic Concepts	53.3	42.9	17.6	49.4	61.7	64.0
Quantitative Techniques	40.0	28.6	23.5	30.1	31.3	40.0
Analytic Techniques	60.0	55.4	58.8	54.8	54.7	50.0
Information System Concepts	33.3	31.2	35.3	32.5	26.6	24.0
Program Structuring	53.3	44.6	44.1	39.8	45.3	40.0
PM, PFP Preparation	46.7	24.1	14.7	22.3	20.3	22.0
Other	13.3	8.0	20.6	3.6	7.0	14.0

Those in International programs indicated significantly less professional benefit from Economic Concepts than those did in any of the other groups. This may be indicative of the difficulty in expressing some program objectives in quantitative terms. The more frequent mention of PM and PFP Preparation by the Defense program category is not significant statistically.

#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

TABLE VII-2

RESPONSE	DEFENSE (n=15) %	HUMAN RESOURCES (n=112) %	INTERNATIONAL (n=34) %	MANAGEMENT (n=165) %	NATURAL RESOURCES (n=128) %	SCIENCE & TECHNOLOGY (n=50) %
Outputs	73.3	65.2	50.0	63.0	71.9	60.0
Costs	60.0	64.3	50.0	58.7	67.2	50.0
Alternatives	80.0	75.0	82.4	81.3	80.5	80.0
Objectives	73.3	64.3	58.8	68.7	69.5	62.0
Other	6.7	4.5	11.8	6.0	5.5	12.0
None	6.7	10.7	8.8	7.8	4.7	10.0

Here significantly more individuals in Management programs reported their thinking about outputs had been influenced than did those in Science and Technology programs.

#5. PLEASE INDICATE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE VII-3

RESPONSE	DEFENSE (n=15) %	HUMAN RESOURCES (n=112) %	INTERNATIONAL (n=34) %	MANAGEMENT (n=166) %	NATURAL RESOURCES (n=128) %	SCIENCE & TECHNOLOGY (n=50) %
Problem Structuring	20.0*	29.5	23.5	25.3	34.4	42.0
Problem Analysis	46.7	48.2	29.4	49.4	53.9	66.0
Problem Solving	40.0	30.4	26.5	37.3	21.1	16.0
Communicating with Others	60.0	42.9	38.2	42.2	46.9	52.0
Identifying and Considering Alternatives	53.3	59.8	52.9	58.4	58.6	70.0
Other	6.7	4.5	5.9	3.0	3.1	9.0

The observed differences are not statistically significant. This is due to the relatively small number of persons in some of the groups that appear to be different.

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* Frequency too small for test.

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

TABLE VII-4

RESPONSE	DEFENSE (n=15) %	HUMAN RESOURCES (n=112) %	INTERNATIONAL (n=34) %	MANAGEMENT (n=166) %	NATURAL RESOURCES (n=128) %	SCIENCE & TECHNOLOGY (n=50) %
Yes	33.3	31.2	26.5	25.3	26.6	46.0
No	66.7	68.7	73.5	74.1	73.4	54.0
No Response	-	.1	-	.6	-	-

The observed differences are not statistically significant at a 95 percent level of confidence.

#10. FOLLOWING YOUR EXPERIENCE WITH THE COURSE, HAVE YOU RECOMMENDED IT FOR OTHERS IN YOUR AGENCY?

TABLE VII-5

RESPONSE	DEFENSE (n=15) %	HUMAN RESOURCES (n=112) %	INTERNATIONAL (n=34) %	MANAGEMENT (n=166) %	NATURAL RESOURCES (n=128) %	SCIENCE & TECHNOLOGY (n=50) %
Yes	93.3	76.8	73.5	68.7	79.7	92.0
No	6.7	23.2	26.5	30.7	20.3	8.0
No Response	-	-	-	.6	-	-

There is a significant difference between the responses by former participants in Defense programs and other programs. The size of the sample from Defense (15), however, suggests caution in drawing conclusions. The response of the Management category, however, was also significantly less than the Natural Resources and Science and Technology categories and the volume of returns was sufficient to be conclusive.

The number of respondents in the Management program category who had recommended the course was also significantly lower than the average of all the other categories. This contradicts the pattern of uniform positive responses by persons in the Management program category to the other questions.

VIII. OCCUPATIONAL CATEGORIES

Four occupational categories were established and the questionnaires were grouped accordingly to analyse possible differences in reaction to the course and its carryover. The categories are Financial, which includes budgetary functions; Line Management; Technical, which includes elements of both line and staff but has the primary identifying characteristic of involving professional education and standards that are less clearly related to public and private sectors, such as medicine and the physical sciences; and Staff Support, which includes all staff functions except those indicated above.

The questions selected for analysis and the responses are shown in the following tables.

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU?

TABLE VIII-1

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Economic Concepts	47.2	55.4	52.0	49.1
Quantitative Techniques	35.0	30.7	32.0	28.9
Analytic Techniques	49.6	57.4	42.0	59.2
Information System Concepts	37.4	35.6	22.0	26.3
Program Structuring	47.2	41.6	46.0	42.5
PM, PFP Preparation	19.5	13.9	32.0	25.0
Other	10.6	5.9	14.0	7.0

Those in Staff Support occupations got significantly greater professional benefit from Analytic Techniques than did those in Technical occupations. But the Technical category reported significantly greater benefit from the course elements concerning program memoranda preparation than did those in line management. This preference may be related to the degree of specialization involved in each occupation.

#3. AT THE TIME YOU LEFT THE COURSE, TO WHAT EXTENT DID YOU UNDERSTAND HOW THE CONCEPTS AND ELEMENTS LISTED IN QUESTION #2 FIT TOGETHER TO FORM THE PPB SYSTEM?

TABLE VIII-2

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Good Understanding	61.0	45.5	46.0	53.9
Fair Understanding	39.0	49.5	48.0	43.0
Didn't Really Understand	-	5.0	6.0	2.6

No significant difference, but those in Financial occupations seemed to be more comfortable with the material.

#4. DID THE ECONOMIC CONCEPTS INFLUENCE YOUR WAY OF THINKING ABOUT GOVERNMENT PROGRAMS IN TERMS OF:

TABLE VIII-3

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Outputs	67.5	63.4	66.0	65.4
Costs	63.4	61.4	62.0	69.3
Alternatives	76.4	82.2	80.0	81.1
Objectives	64.2	66.3	64.0	68.9
Other	3.3	5.0	4.0	3.5
None	6.5	5.0	8.0	8.3

No significant difference.

#5. PLEASE INDICATE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE VIII-4

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Problem Structuring	23.6	30.7	28.0	33.3
Problem Analysis	38.2	47.5	54.0	58.8
Problem Solving	23.6	35.6	22.0	32.9
Communicating with Others	54.5	40.6	44.0	41.7
Identifying and Considering Alternatives	45.5	71.3	66.0	62.7
Other	3.3	6.9	16.0	3.1

The rate of selection of Problem Analysis by persons in Financial occupations was significantly less frequent than by the Staff Support group. Finance people responded significantly less frequently about Identifying and Considering Alternatives than any of the other categories. The same distinction exists between Financial and all other occupational areas concerning Identifying and Considering Alternatives.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE VIII-5

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Yes	56.9	55.4	62.0	64.0
No	42.3	44.6	38.0	34.2
No Response	.8	-	-	1.8

No significant difference.

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

TABLE VIII-6

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Yes	24.4	35.6	28.0	35.5
No	74.8	64.4	72.0	64.0
No Response	.6	-	-	.5

No significant difference.

#10. FOLLOWING YOUR EXPERIENCE WITH THE COURSE, HAVE YOU RECOMMENDED IT FOR OTHERS IN YOUR AGENCY?

TABLE VIII-7

RESPONSE	FINANCIAL (n=123) %	LINE MANAGEMENT (n=101) %	TECHNICAL (n=50) %	STAFF SUPPORT (n=228) %
Yes	75.6	74.3	74.0	79.4
No	22.8	22.8	24.0	20.2
No Response	1.6	2.9	2.0	.2

No significant difference.

IX. WORKING DIRECTLY IN PPB AND NOT WORKING DIRECTLY IN PPB

To investigate the nature and degree of difference of types of training carryover observed by those former participants whose primary duties are directly related to PPB operations, and by those who are not working directly in some phase of PPB, we grouped the questionnaires according to the answer to Question #1. Answers to the questions that were analyzed are shown in the tables below. In this series of tables a statistically significant difference is present when there are 10 or more percentage points variation in the response.

#2. WHAT ELEMENT OR ELEMENTS OF THE COURSE HAVE BEEN OF GREATEST PROFESSIONAL BENEFIT TO YOU?

TABLE IX-1

RESPONSE	WORKING DIRECTLY IN PPB* (n=312) %	NOT WORKING DIRECTLY IN PPB* (n=186) %
Economic Concepts**	53.8	43.5
Quantitative Techniques	34.9	25.3
Analytic Techniques	55.8	49.5
Information System Concepts	27.6	34.9
Program Structuring	45.2	39.8
PM, PFP Preparation	25.3	17.7
Other	7.7	7.0

Only Economic Concepts were significantly greater benefit to those working in PPB.

* The sum of "n" does not equal 503 due to no response or unusable response to Question #1 by some respondents.

** Responses significantly different.

#5. PLEASE INDICATE SITUATIONS WHERE APPLICATION OF THE QUANTITATIVE AND SYSTEMS ANALYSIS TECHNIQUES HAVE BEEN HELPFUL TO YOU.

TABLE IX-2

RESPONSE	WORKING DIRECTLY IN PPB* (n=312) %	NOT WORKING DIRECTLY IN PPB* (n=186) %
Problem Structuring**	35.3	18.3
Problem Analysis**	56.4	43.5
Problem Solving	27.9	31.2
Communicating with Others	45.8	43.0
Identifying and Considering Alternatives	59.3	61.8
Other	4.2	7.5

The techniques were significantly less helpful to those not in PPB in situations involving Problem Structuring and Problem Analysis.

** Responses significantly different.

#6. IF YOU WERE GOING TO ATTEND THE COURSE NOW, IS THERE ANY PORTION WHERE YOU FEEL THE EMPHASIS SHOULD BE CHANGED?

TABLE IX-3

(Totals do not equal 100 percent since approximately 10 percent did not answer each portion.)

RESPONSE	WORKING DIRECTLY IN PPB (n=312) %	NOT WORKING DIRECTLY IN PPB (n=186) %
ECONOMICS		
Increased	19.2	17.7
Decreased	28.8	25.3
No Change	43.3	45.7
MATHEMATICS/STATISTICS		
Increased	19.6	22.0
Decreased	37.8	33.3
No Change	33.7	32.8
CASE STUDIES		
Increased	38.8	45.7
Decreased	15.4	16.1
No Change	37.2	29.0
SYSTEMS ANALYSIS		
Increased	50.3	48.9
Decreased	8.0	4.3
No Change	29.5	35.5
INFORMATION THEORY		
Increased	31.1	29.0
Decreased	16.3	10.8
No Change	39.7	45.2

RESPONSE	WORKING DIRECTLY IN PPB (n=312) %	NOT WORKING DIRECTLY IN PPB (n=186) %
PROGRAM STRUCTURING		
Increased	47.4	45.7
Decreased	11.2	9.7
No Change	32.4	33.3
PREPARATION OF PM, PFP		
Increased	50.5	43.0
Decreased	9.3	7.5
No Change	28.5	36.0
OTHER		
Increased	8.7	3.8
Decreased	1.0	.5
No Change	.64	-

There were strong suggestions for change in some subject matter categories, and both groups registered essentially similar opinions.

#7. DID THE COURSE STIMULATE YOUR INTEREST TO THE EXTENT THAT YOU HAVE CONTINUED TO STUDY IN RELATED SUBJECTS THROUGH OUTSIDE COURSES, PERSONAL READINGS, ETC.?

TABLE IX-4

RESPONSE	WORKING DIRECTLY IN PPB (n=312) %	NOT WORKING DIRECTLY IN PPB (n=186) %
Yes**	67.0	47.8
No	31.7	50.5
No Response	1.3	1.7

The group not in PPB pursued further study in this area with significantly less frequency.

#8. CAN YOU CITE ANY SPECIFIC EXAMPLES OF OUTPUT WHICH ARE A DIRECT RESULT OF OR LARGELY INFLUENCED BY THE COURSE?

TABLE IX-5

RESPONSE	WORKING DIRECTLY IN PPB (n=312) %	NOT WORKING DIRECTLY IN PPB (n=186) %
Yes**	39.4	26.9
No	40.1	51.6
No Response	20.5	21.5

Although the frequency of output related to the course by those not in PPB has been significantly lower, the number of persons not in PPB who reported such output indicates a substantial amount of carryover to other functions.

**Response significantly different.

#10. FOLLOWING YOUR EXPERIENCE WITH THE COURSE, HAVE YOU RECOMMENDED IT FOR OTHERS IN YOUR AGENCY?

TABLE IX-6

RESPONSE	WORKING DIRECTLY IN PPB (n=312) %	NOT WORKING DIRECTLY IN PPB (n=186) %
Yes**	80.1	69.9
No	17.9	28.0
No Response	2.0	2.1

While those in PPB recommended the course to others with significantly higher frequency, tne volume of endorsement by those less directly concerned is impressive.

** Responses significantly different.

APPENDIX A

Monday	Tuesday	Wednesday	Thursday	Friday
8:30 - 9:30 Course Introduction 10:00 - 12:00 Public Sector Allocation Decisions	8:30 - 11:30 Macro-Economics The National Economy 11:30 - 12:00 Course Administration	8:30 - 11:30 PPB as a National Planning Tool The Distributed Output Concept 11:30 - 12:00 Second Budget Game Input	8:30 - 9:30 Micro-Economic Analysis 9:45 - 12:00 Operation and Experience of a PPB System	8:30 - 9:30 Linear Programming Problems 10:00 - 11:00 Price Theory and PPB 11:00 - 12:00 Post Office (B) Case 12:00 - 12:30 Course Administration
L U N C H				
1:30 - 3:30 PPB Concepts 4:00 - 5:00 Tour of U. of Va.	1:30 - 4:30 Micro-Economic Analysis 4:30 - 5:30 Group Organization & First Budget Game Input	1:30 - 4:00 Supply and Demand Analysis 4:00 - 5:00 Economic Analysis Application: Post Office (B) Case	1:30 - 4:00 Linear Programming 4:00 - 4:30 Third Budget Game Input	1:30 - 5:00 Study
D I N N E R				
		7:00 - 8:30 Private and Social Costs		

Monday	Tuesday	Wednesday	Thursday	Friday
8:30 - 12:00 Program Memoranda and Program & Financial Plans	8:00 - 10:15 Establishing and Applying Agency Criteria 10:30 - 11:00 Fifth Budget Game Input 11:00 - 12:00 Corps of Engineers Program Memorandum	8:30 - 11:30 Systems Analysis 11:30 - 12:00 Budget Game Conclusion	8:30 - 9:30 Deciding What to Analyze in PM's 9:45 - 12:00 Quantitative Analysis Statistics for Managers	8:00 - 8:30 Course Administration 8:30 - 9:30 First SMART Corp. Input 9:45 - 10:15 Budgeting by Objectives and/or Constructing a Crosswalk 10:30 - 12:30 Model Building
L U N C H				
1:30 - 2:00 Fourth Budget Game Input 2:00 - 3:00 Clarifying Agency and Office Goals & Outputs 3:15 - 5:00 Prepare Land and Facilities Case	1:30 - 4:30 Corps of Engineers Program Memorandum	1:30 - 3:00 Systems Analysis Application: National Capital Airports (B) Case 3:30 - 4:00 Generating Alternative Programs to Reach Goals 4:00 - 5:00 National Capital Airports (B) Case 5:00 - 5:30 Course Administration	1:30 - 4:15 PPB as a Decision Making System	1:30 - 5:00 Study

Monday	Tuesday	Wednesday	Thursday	Friday
8:30 - 11:00 Regression Analysis 11:00 - 12:00 New Developments in PPB	8:30 - 12:00 Decision Making Under Uncertainty	8:00 - 8:30 Course Administration 8:30 - 10:45 Discounting Application: Bureau of Mines (A) Case Cost-Benefit: OEO (A) Case 11:00 - 12:00 Bureau of Mines (A) Case	8:30 - 9:30 Disease Control Programs (A) Case 10:00 - 11:30 Decision Trees 11:30 - 12:00 SMART Corp. Case Conclusion	8:30 - 9:00 Presentation 9:00 - 11:30 The Application of Analytical Methods to the Development of the Supersonic Transport 11:30 - 12:30 Course Evaluation and Conclusion
LUNCH				
1:30 - 4:30 Discounting and Present Value: Concepts and Problems 4:30 - 5:30 Second SMART Corp. Input	1:30 - 2:30 Third SMART Corp. Input 3:00 - 5:00 Management Information Systems	1:30 - 2:30 OEO (A) Case 3:00 - 3:30 Hiring and Training PPB Analysis 3:30 - 5:30 Fourth SMART Corp. Input Cost - Benefit: Disease Control Program (A) Case	1:30 - 4:30 PPB and Federal Budget Decision Making	

APPENDIX B

PPB Seminar
Follow-up Questionnaire

CODE (leave blank)

Name:_____

Employing Organization: (Dept. or Independent Agency)

_____

Major Organization Sub-division:_____

_____

Business Address:_____Office Phone Number:_____

_____Zip Code:_____

Present Position Title:_____

Present Grade:_____

Position Title at Time of Course:_____

Grade at Time of Course:_____

Age:_____Years of Government Service: Civilian:_____Military:_____

Please indicate the occupational categories in which you have had experience (Government and other) and the number of years in each category.

/__/ Financial or Budget Operations _____ years

/__/ Personnel Operations _____ years

/__/ Management Analysis _____ years

/__/ Data Processing Operations _____ years

/__/ Line Management _____ years

/__/ Other (Please Specify) _____ years

_____

Education:

Principal College Subjects	Credit Hours	Degree(s)	Year(s)

Please list other Government sponsored courses related to PPBS you have attended in the past two (2) years.

_____

_____

_____

1. Are you currently working directly in some phase of PPB?

   /__/ Yes /__/ No

   If yes, answer 1a & 1b; If no, answer 1c.

   1a. Is your work principally in

   Planning /__/ Programming /__/ Budgeting /__/ ?

   1b. Is it generally Managerial /__/ Analytical /__/ ?

   1c. Is your work indirectly supportive of PPB functions (PM, PFP, Spec. Study Input, Data Collection, etc.?)

   /__/ Yes /__/ No

2. What element or elements of the course have been of greatest professional benefit to you? (Check as many as apply)

   /__/ Economic Concepts

   /__/ Quantitative Techniques

   /__/ Analytic Techniques

(List continued)

/__/ Information System Concepts

/__/ Program Structuring

/__/ PM, PFP Preparation

/__/ Other_____

3. At the time you left the course, to what extent did you understand how the concepts and elements listed in Question #2 fit together to form the PPB system? (Check appropriate block)

/__/ Good Understanding

/__/ Fair Understanding

/__/ Didn't Really Understand

4. Did the economic concepts influence your way of thinking about government programs in terms of: (Check as many as apply)

Yes	No	
/__/	/__/	Outputs
/__/	/__/	Costs
/__/	/__/	Alternatives
/__/	/__/	Objectives
/__/	/__/	Other_____

5. Please indicate situations where application of the quantitative and systems analysis techniques have been helpful to you. (Check as many as apply)

/__/ Problem Structuring

/__/ Problem Analysis

/__/ Problem Solving

/__/ Communicating with Others

/__/ Identifying and Considering Alternatives

/__/ Other_____

6. If you were going to attned the course now, is there any portion where you feel the emphasis should be changed? (Check appropriate column)

	Increased	Decreased	No Change
Economics	____	____	____
Mathematics/Statistics	____	____	____
Case Studies	____	____	____
Systems Analysis	____	____	____
Information Theory	____	____	____
Program Structuring	____	____	____
Preparation of PM, PFP	____	____	____
Other:_____	____	____	____

7. Did the course stimulate your interest to the extent that you have continued to study in related subjects through outside courses, personal readings, etc.?

/__/ Yes /__/ No

Subject(s)_____

_____

_____

8. Can you cite any specific examples of output which are a direct result of or largely influenced by the course? (Brief comment or attach sample)

_____
_____
_____

9. Are there any particular facets of PPB for which you think follow-up training courses should be developed that would be useful to you?

_____
_____
_____

10. Following your experience with the course, have you recommended it for others in your agency?

/__/ Yes /__/ No

11. With the benefit of time and the opportunity to digest and use the training, do you have other observations or suggestions regarding the PPB Seminar?

_____
_____
_____

THANK YOU FOR COMPLETING AND RETURNING THIS QUESTIONNAIRE.

APPENDIX C

GUEST FACULTY

Throughout the history of the PPBS seminar there has been a sustained effort to obtain the best available experts to serve as guest faculty. In addition to providing guidance about the structure and content of the seminar, key Bureau of the Budget staff members have played an active role as guest lecturers. Also, knowledgeable officials from throughout Government have participated. Noted authors and teachers have been brought in from university campuses and advice and assistance has been obtained from experienced senior analysts with consulting firms.

The following individuals have served as guest faculty for the PPB seminar, some on many occasions:

FEDERAL GOVERNMENT REPRESENTATIVES

Jack Kratchman
Chief, Program Plans Branch
Div. of Plans & Reports
U. S. Atomic Energy Commission

Milton Searle
Chief, Economics Branch
Div. of Operation Analysis & Forecast
Atomic Energy Commission

Jerome Snyder
Plans Analyst
Div. of Plans & Reports
U. S. Atomic Energy Commission

William A. Carlson
Planning, Evaluation & Program Staff
Department of Agriculture

Howard W. Hjort
Director, Planning, Evaluation & Programming Staff
Department of Agriculture

Steven Dola
Systems Analysis Group
Department of the Army

Lt. Col. Marvin S. Weinstein
Office, Assistant Secretary of the Army (FM)

James DeLong
Member, Program Evaluation Staff
Bureau of the Budget

James Duesenberry (Dr.)
Member, Council of Economic Advisors

Paul Feldman (Dr.)
Program Evaluation Staff
Office of the Director
Bureau of the Budget

C. William Fisher
Assistant Chief
International Division
Bureau of the Budget

Robert Gallamore (Dr.)
Program Evaluation & Review Staff
Bureau of the Budget

John Haldi (Dr.)
Chief
Program Evaluation Staff
Bureau of the Budget

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Bureau of the Budget

Frank W. Krause
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Office of Budget Review
Bureau of the Budget

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Program Evaluation Staff
Bureau of the Budget

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Natural Resources Programs Division
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Nestor E. Terleckyj
Program Evaluation Staff
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Ralph R. Thelwell
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John Wirt
Program Evaluation Staff
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Civil Service Commission

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Laurence E. Lynn
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Office of Deputy Assistant Secretary for Economic Development
Department of Defense

Dwight Greene
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Management Information Center
Environmental Science Service Administration

Malcolm Kirby (Dr.)
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U. S. Forest Service

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General Services Administration

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Under Secretary of the Interior
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Department of the Interior

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Secretary
Water Power Development
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Harvey Mack
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Assistant Secretary of Defense

William Lord (Dr.)
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U. S. Post Office Department

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Robert Miller
Chief
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Joseph T. McDonnell
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Senate Appropriations Committee

William H. Boswell (Capt.)
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